

REMARKS

Claims 1-12 currently appear in this application. The Office Action of November 30, 2006, has been carefully studied. These claims define novel and unobvious subject matter under Sections 102 and 103 of 35 U.S.C., and therefore should be allowed. Applicant respectfully requests favorable reconsideration, entry of the present amendment, and formal allowance of the claims.

Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tundermann, US 3,941,584 in view of Levine, 4,321,087.

This rejection is respectfully traversed. Claim 1 has been amended to recite that the flakes have plane-parallel surfaces and a thickness of between 20 and 60 nm. This limitation is taken from claim 13, which was now been cancelled.

Tundermann discloses that the flakes so produced have a thickness of about 0.75 microns or less than about 0.5 micron, with an average dimension across a major flake axis of about 10 to about 80 microns. Flakes up to 3 microns thick can be produced (column 4, lines 33-49). These flakes are considerably larger than those claimed herein.

Levine disclose that the metallic pigment particles are from 25-50 microns in diameter and can be as small as 10-20 microns in diameter (column 5, lines 5-6 and 27-30).

Neither Tundermann nor Levine discloses particles in the range of 20 to 60 nm, nor particles that have plane-parallel surfaces, as claimed herein, so it is self-evident that the process by which the particles claimed herein are produced results in particles that are quite different from those produced in the Tundermann and Levine disclosures.

The presently claimed flakes result from individually evaporating the components of the copper alloy. One skilled in the art would not expect that copper and another alloy component such as zinc can be evaporated separately and form an alloy, as both components of the alloy have different vapor pressures.

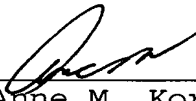
Copper has a melting point of 1083°C and a boiling point of 2595°C. Zinc can be evaporated at 907°C at normal pressure. This means that a vapor pressure of 10<sup>-2</sup> mbar is obtained with copper at a temperature of 1240°C/1400°C, whereas this value is obtained with zinc at 340°C/405°C. That is, there is a temperature difference of 900°C to 1000°C. With these differences, it is surprising that flakes of a very high quality alloy are obtained.

Support for the amendments to claim 7 can be found in the specification as filed at page 5, lines 24-25 and page 7, lines 1-2.

In view of the above, it is respectfully submitted that the claims are now in condition for allowance, and favorable action thereon is earnestly solicited. Entry of the present amendment is respectfully requested as the amendment raises no new issues, as the limitations of claim 13 had already been considered.

Respectfully submitted,

BROWDY AND NEIMARK, P.L.L.C.  
Attorneys for Applicant

By:   
Anne M. Kornbau  
Registration No. 25,884

AMK:srd  
Telephone No.: (202) 628-5197  
Facsimile No.: (202) 737-3528  
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